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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,474	08/09/2004	Thomas Margaria	04125	6829

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DENNISON, SCHULTZ & MACDONALD  
1727 KING STREET  
SUITE 105  
ALEXANDRIA, VA 22314

EXAMINER

MAI, NGOCLAN THI

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

5

<b>Office Action Summary</b>	<b>Application No.</b> 10/500,474	<b>Applicant(s)</b> MARGARIA, THOMAS	
	<b>Examiner</b> Ngoclan T. Mai	<b>Art Unit</b> 1742	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 July 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 8-10, and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/16/04</u> . | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Claims interpretation*

Claim 1, lines 3-4 recites "to which inert mineral powders are possibly added" can be interpreted as optional therefore at least claim 1 does not have to have inert mineral powders.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

claim 13 is indefinite because it appears to claim a process, however there is no active positive method step recited in the claim. The claim refers to "the mix" in line 3 however there is no antecedent basis for the mix.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 11, 12, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11277210 A and 102(a) as being anticipated by Margaria et al. (U.S. Patent No. 6,338,753, now "Margaria").

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Margaria discloses powder product for the protection of mould for the centrifugal casting of cast iron which contains a mixture of a silicon-based inoculating agent and an inert mineral powder, wherein the silicon-based contains silicon alloy comprising aluminum, calcium, barium, strontium, manganese and/or zirconium. Since calcium and strontium each has boiling temperature below the melting temperature of iron, it therefore is volatile at the temperature of the liquid cast iron. Mixture of more than inoculating alloys is taught to form the powder product, Example 2. Calcium and strontium are elements in column 2 in the Mendeleiev classification as well as the element in subgroup 2a in the periodic table of elements. The element is added in the amount of no more than 5% by weight, col. 2, lines 42-49. The inert mineral powder can be carbon, fluorspar (calcium fluoride) or other fluoride compounds or silica, col. 2, lines 51-54 and 10% by weight is taught, col. 3, lines 44-45.

Claims 1-7, 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Moore et al.

Moore discloses an additive for treating basin for treating molten metal comprising a nodularizing alloy, which alloy is consisted of magnesium ferrosilicon, rare earth fluoride, calcium fluoride and calcium silicide, col. 5, lines 45-49. Note that calcium silicide would inherently acts as a reducing metal.

***Claim Rejections - 35 USC § 103***

Claims 1-5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell et al. (U.S. Patent No. 1,982,763).

Russell discloses materials comprising ferro-silicon and silica flour has been used successfully to form coating on metallic mold for casting metal ingot, page 1, lines 94-101.

Russell differs from the claimed invention in that Russell does not specifically teach employing reducing metal that is volatile at the temperature of the liquid cast iron.

Russell however teaches other material such as calcium silicide can also be used as well for

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coating mold. Thus it would have been obvious to one of ordinary skill in the art to combine ferro-silicon as an inoculating alloy with calcium silicide as the reducing metal to obtain a powder product for coating mold. It is well settled that it is a matter of obviousness for one of ordinary skill in the art to combine two or more materials when each is taught by the prior art to be useful for the same purpose. In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Hence it would have been obvious to one of ordinary skill in the art to replace part of the ferro-silicon with a calcium silicide as element equivalent to ferro-silicon taught by the reference.

***Allowable Subject Matter***

Claims 8-9, 10, 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoclan T. Mai whose telephone number is (571) 272-1246. The examiner can normally be reached on 9:30-6:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ngoclan T. Mai  
Primary Examiner  
Art Unit 1742

n.m.